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EXHIBIT 1

UNITED STATES DISTRICT COURT

WESTERN DISTRICT OF TEXAS

AUSTIN DIVISION

RAVGEN, INC.,	:	
Plaintiff,	:	**Civil Action No. 6:20-CV-00451**
	:	[redacted]
v.	:	[redacted]
NATERA, INC. and NSTX, INC.,	:	
Defendants.	:	

REBUTTAL EXPERT REPORT OF MOHAN RAO, PH.D.

  - Mr. Meyer bases his reasonable royalty calculation on a $100 per-unit royalty rate on Accused Products for commercial use and a $75 per-unit royalty rate on Accused Products for research use;[139]
  - Mr. Meyer states that "in no event would the reasonable royalty be less than $60 per unit" based on the Sequenom-Quest agreement;[140]
  - These damages are calculated in the period from June 1, 2014 through December 31, 2020;[141] and
  - Mr. Meyer states that these royalties correspond to a hypothetical, non-exclusive license for use of the patents-in-suit in the U.S.[142]

- Mr. Meyer's reasonable royalty quantification is based on the royalty rates contained in three license agreements and one settlement agreement that involved Ravgen's patents-in-suit (collectively, the "Ravgen Agreements"). Specifically, these agreements include:[143]
  - [redacted], dated April 2021;
  - [redacted], dated June 2021;
  - [redacted], dated June 2021; and
  - [redacted] Settlement Agreement, dated June 2021.

- Mr. Meyer uses the Ravgen Agreements to inform his initial royalty rate of 30 percent, which he determines by subtracting a 10 percent "First Mover Discount," applicable to the hypothetical license, from a starting royalty rate of 40 percent seen in

[139] Expert Report of Paul K. Meyer, August 6, 2021, paragraphs 18-19.
[140] Expert Report of Paul K. Meyer, August 6, 2021, footnote 3 and paragraph 331.
[141] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 19.
[142] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 16.
[143] Expert Report of Paul K. Meyer, August 6, 2021, paragraphs 92-118.

the Ravgen Agreements.[144] To convert his royalty to a per-unit royalty, Mr. Meyer multiples Panorama's average selling price [redacted] Further, Mr. Meyer applies a 25 percent reduction to research-indicated (*i.e.*, not for commercial use) Accused Products, which he determines from the discounts listed in the [redacted], to arrive at a $75 per-unit fee for non-commercial and non-billed units.[146]

- Mr. Meyer explains his conservatism by admitting that [redacted]"[147]

- Mr. Meyer includes all units of the Accused Products, even those that are not billed, in his analysis. According to Mr. Meyer, such a per-unit structure is appropriate because:

  - [redacted];[148]
  - [redacted];[149]
  - [redacted]

[144] [redacted]
[145] Expert Report of Paul K. Meyer, August 6, 2021, paragraphs 345-347.
[146] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 348.
[147] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 347.
[148] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 130.
[149] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 340.

[redacted]

- [redacted]
- [redacted]
- [redacted] and
- [redacted]

Ravgen and Thermo Fisher Scientific Patent License Agreement

105. On June 23, 2021, Thermo Fisher Scientific and Ravgen entered into a Patent License Agreement.[242] Key terms of the agreement include:[243]

- Financial Terms:
  - [redacted]
  - [redacted]
  - [redacted]
  - [redacted]

[242] Thermo Fisher Royalty Analysis (RAVGEN-00050202); and Patent License Agreement, between Ravgen and Thermo Fisher Scientific, June 23, 2021, RAVGEN-00050167 – RAVGEN-00050180. I understand that Ravgen claims that Thermo Fisher was indirectly infringing the '720 Patent.

[243] Patent License Agreement, between Ravgen and Thermo Fisher Scientific, June 23, 2021, RAVGEN-00050167 – RAVGEN-00050180; and Tab 3.

- Financial Terms:

[redacted]

109. These Ravgen Agreements are not informative to the hypothetical negotiation that would occur between Ravgen and Natera. The level of accused sales made by these other entities is nowhere near those of the Accused Products, as reflected in the fully paid-up license amounts. Further, none of the lump-sum payments come close to the purported reasonable royalty of [redacted] calculated by Mr. Meyer. In fact, the magnitude of these license payments may be categorized as nuisance payments to avoid the cost of litigation, rendering use of the stated royalty rates as a basis to determine the reasonable royalty in this matter highly speculative.

110. In support of his royalty rate, Mr. Meyer notes that Thermo Fisher and [redacted] are even larger companies than Natera with respect to annual revenues, and concludes that the relative size of the companies did not influence the effective royalty rates realized.[247] However, this misses the point. The net sales of accused products from all companies involved in the Ravgen Agreements are orders of magnitude less than those of Natera and, thus, these agreements are not informative regarding a negotiation between Natera and Ravgen. The royalty payments derived from the past and projected sales of products exploiting the Asserted Patents (until expiration of the Asserted Patents) involved in the agreements include:[248]

- [redacted]

[247] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 144.
[248] See also, Tab 3.

- [redacted]
- [redacted]
- [redacted]

111. Mr. Meyer exclusively determines his royalty rate from these agreements [redacted] but the volume of the accused products from the companies involved in the Ravgen Agreements is orders-of-magnitude away from being comparable to Natera's. With respect to levels of commercialization of cf-DNA based products and involvement in the corresponding market, the Ravgen Agreements are not comparable to the agreement arising from the hypothetical negotiation.

112. Even if, for sake of argument, the financial terms of the Ravgen Agreements were considered informative, Mr. Meyer ignores their lower implied effective royalty rates. Out of the four Ravgen Agreements relied upon by Mr. Meyer, [redacted] Mr. Meyer does not explain why he has not considered Ravgen's past position of accepting royalty base reductions for non-infringing alternative tubes or why he does not consider the effective royalty rates paid in his assessment of the economic value of the patents-in-suit.

113. Further, Mr. Meyer is not consistent in what he claims to be comparable when referring to technology and agreements throughout his report. For example, Mr. Meyer opines that "the invention of the Agent Claims was therefore essential to the commercialization of [non-invasive prenatal, cancer monitoring, and transplant] tests because

[249] I understand this agreement [redacted]

without the claimed agent, cell lysis resulting from stressors during those steps would dilute the target cell free DNA such that the percentage recovered would be too low for the analysis."[250] Mr. Meyer cannot both argue this and claim that the Ravgen Agreements are comparable to an agreement resulting from a hypothetical negotiation, given that three of the license agreements [redacted] include a royalty reduction for use of non-accused blood collection tubes.[251] In contrast, Mr. Meyer states regarding Natera that:

> [T]he only available non-infringing alternative (anticoagulant tubes, like EDTA, that do not include the claimed agent) would not be commercially acceptable for Natera because (1) it would require costly changes to the workflows of the Accused Products, and (2) even with those changes, would not be as effective as the use of the agent invention for recovering a sufficient percentage of cell-free DNA for analysis.[252]

and

> I understand that the Asserted Patents are essential and enabling, indicating that market participants such as Natera could not commercially scale their testing and make sales without practicing the Asserted Patents. . . [T]he lack of available, acceptable non-infringing alternatives would have an upward influence on the negotiated royalty rate. . . Natera could not commercially scale its NIPT product sales and other Accused Product sales without a license to the Asserted Patents.[253]

114. In summary, Mr. Meyer's exclusive use of the Ravgen Agreements to arrive at a royalty rate is improper and fails to address a number of factors that render the

[250] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 94.

[251] [redacted]

[252] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 244.

[253] Expert Report of Paul K. Meyer, August 6, 2021, paragraphs 279-280.

[redacted]

Mohan Rao, Ph.D.

3 September 2021

Appendix I

I Georgia Pacific Factors

Factor 1: The royalties received by the patentee for the licensing of the patent-in-suit, proving or tending to prove an established royalty

1. In a reasonable royalty analysis, an established royalty is often used as a benchmark against which to measure or determine a calculated royalty. This test of reasonableness compares a calculated royalty against similarly structured license agreements agreed upon by the license holder.

2. I am aware of three license agreements and one settlement agreement that granted rights to the '277 Patent and the '720 Patent. The lump-sum amounts paid by these companies to Ravgen in exchange for Ravgen providing license rights to the patents-in-suit were:[1]

3. Such amounts are indicative of "nuisance" payments made by parties to avoid the expense of litigation, and are hundreds of times less than just the *past* amount that Mr. Meyer concluded is appropriate for Natera to pay for these same rights.[3] Therefore, the underlying financial terms (*e.g.*, the royalty rate) from these 2021

[1] Tab 3; and Expert Report of Paul K. Meyer, August 6, 2021, paragraphs 97, 101, 106, and 116.

[3] Expert Report of Paul K. Meyer, August 6, 2021, paragraph 19.

Documents Considered List

Pleadings

1. Complaint for Patent Infringement, June 1, 2020.
2. Defendants First Supplemental Responses and Objections to Plaintiff's Second Set of Interrogatories (Nos. 19-28), July 21, 2021.
3. Defendants Natera, Inc. and NSTX, Inc.'s Fifth Supplemental Responses and Objections to Plaintiff Ravgen, Inc.'s First Set of Interrogatories (Nos. 1-18), July 21, 2021.
4. Defendants Natera, Inc. and NSTX, Inc.'s First Supplemental Responses and Objections to Plaintiff Ravgen, Inc.'s First Set of Interrogatories (Nos. 1-18), May 14, 2021.
5. Defendants Natera, Inc. and NSTX, Inc.'s Fourth Supplemental Responses and Objections to Plaintiff Ravgen, Inc.'s First Set of Interrogatories (Nos. 1-18), July 12, 2021.
6. Defendants Natera, Inc. and NSTX, Inc.'s Responses and Objections to Plaintiff Ravgen, Inc.'s First Set of Interrogatories (Nos. 1-18), March 19, 2021.
7. Defendants Natera, Inc. and NSTX, Inc.'s Second Supplemental Responses and Objections to Plaintiff Ravgen, Inc.'s First Set of Interrogatories (Nos. 1-18), June 27, 2021.
8. Defendants Natera, Inc. and NSTX, Inc.'s Third Supplemental Responses and Objections to Plaintiff Ravgen, Inc.'s First Set of Interrogatories (Nos. 1-18), June 28, 2021.
9. Defendants' Responses and Objections to Plaintiff's First Set of Requests for Admission Nos. 1-45, June 24, 2021.
10. Defendants Second Supplemental Supplemental Responses and Objections to Plaintiff's Second Set of Interrogatories (Nos. 19-28), July 21, 2021.
11. Plaintiff Ravgen, Inc.'s First Supplemental Responses to Defendants' First Set of Interrogatories (Nos. 1-20), June 14, 2021.

[redacted]

Depositions

1. Deposition of Brad Hunsley, Vice President of R&D at Streck, July 7, 2021.
2. Deposition of Christine Eng Knight, Chief Medical Officer and Chief Quality Officer at Baylor Genetics, June 25, 2021.

Summary of Ravgen Agreements

Date	Licensor	Licensee	Type of Agreement	Technology	Territory	Exclusivity	Financial Terms			
							Royalty Rate Details	Effective Royalty Rate	Royalty Base	Fees